

SIEMENS

SIREMOBIL Compact

SP

System Manual

Installation and Setting Instructions

Replacing the lifting column

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Register 3

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Safety information

CAUTION

When performing service work and tests, adhere to the product-specific safety information contained in the documents as well as the general safety information in Register 2 of the TI folder.

Tests and adjustments performed with radiation on are identified with the radiation warning symbol . Radiation protection must be worn during these types of adjustments.

Protective conductor resistance test

After concluding all work and reattaching all covers, perform the protective conductor test according to TI 236 / ARTD-002.731.17... .

The protective conductor resistance may not exceed 0.2 ohm.

Other information

n.a.

Required documents

Circuit diagram G5429

Service instructions RXR2-130.061.01....

Required tools and measurement devices

Service kit (refer to ARTD / Part 3)

Digital multimeter

20N spring scale	44 29 114 NH029
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200N spring scale	44 15 113 RH090
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25 - 130 Nm 1/2" torque wrench	34 24 561
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Service PC

Service-PC - Host connection cable	99 00 440 RE999
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Protective conductor meter	44 15 899 RV090
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Required material

Viscogen KL300, 40 g	73 95 353
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Conductive paste for heat sink

Lifting column parts kit	37 79 407 G5429
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Fig. 1

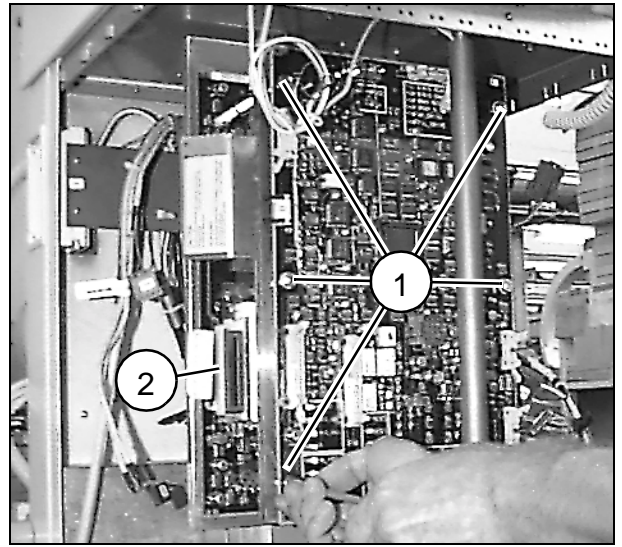


Fig. 2

Preliminary steps

- Switch the SIREMOBIL off and disconnect the line voltage plug.
- Secure the unit so that it cannot be inadvertently switched on.
- To secure the unit against tipping, support it on the operating panel side with wooden boards or other similar material.

Board D3

- Remove the Plexiglas cover of board D3 by removing the screws.
- Disconnect all plugs except D3/X2 (Fig.1).
- Remove the protective conductor from the board.

NOTICE

Board D3 does not have to be removed.

Board D1

- Disconnect all plugs from the board.
- Remove the protective conductor from the board.
- Remove all 6 mounting nuts (1/Fig.2).
- Carefully remove the board and place it on an ESD surface.
- Remove the spacers from the 6 screws.
- Open the strain relief for ribbon cable X 4 (2/Fig.2).

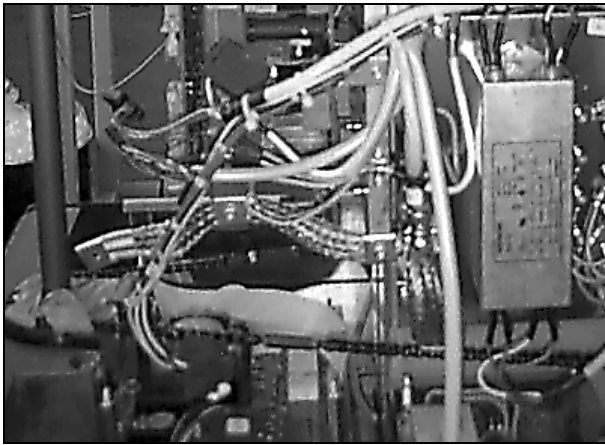


Fig. 3

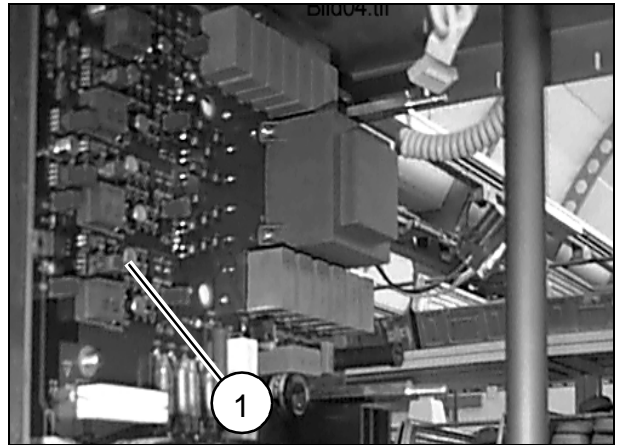


Fig. 4

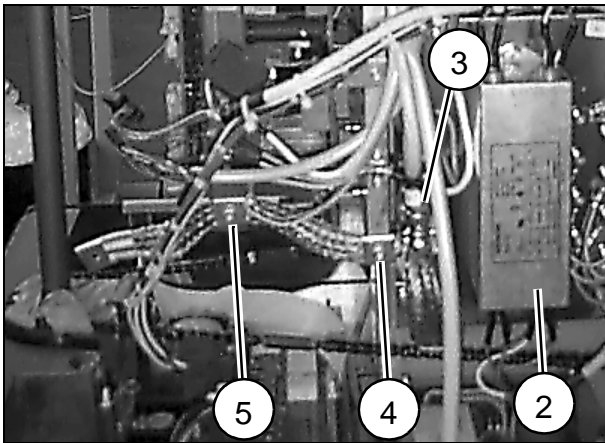


Fig. 5

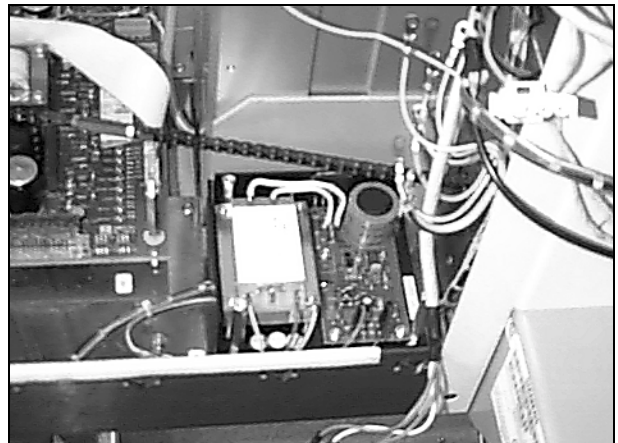


Fig. 6

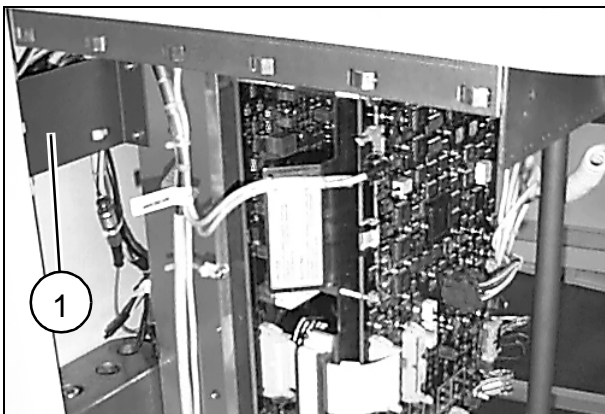


Fig. 7

Board D2

- Remove the protective conductor from the interface plate.
- Remove the interface plate.
- Remove the grounding bracket from the heat sink. The heat sink remains on the board (1/Fig.3).
- Disconnect all plugs from the board.
- Remove the 6 spacer screws.
- Unscrew the board from the heat sink (1/Fig.4).
- Remove the board and place it on an ESD surface.
- Remove the grounding strap from the heat sink (5/Fig.5).
- Unscrew the protective conductor.
- Remove the 6 mounting screws of the heat sink.
- Lift out the heatsink.

Line filter

- Disconnect the lower connections of the line filter.
- Remove the line filter by removing the screws.
- Remove all protective conductors from the base plate of the line filter (2/Fig.5).
- Remove the BNC connector (X1) and remove the screws from the BNC plug (3/Fig.5).
- Unscrew the grounding strap from the base plate (4/Fig.5).
- Remove the screws from the base plate and remove the base plate; remove the bolt from the lifting column.

Power pack M 14

- Disconnect plugs X2 and X3 from the power pack; the protective conductor can remain connected.
- Remove the power pack;
to do this, loosen only the two upper nuts and remove the lower nut.

TV power supply M13

- Remove the Plexiglas cover by removing the screws.
- Desolder the connections from the transformer and disconnect all other connections.
- Remove the screws from underneath the TV power supply and lift it out, Fig.6
- Remove the stabilization bracket of the monitor cable connector from the lifting column by removing the screws , 1/Fig.7.



Fig. 8

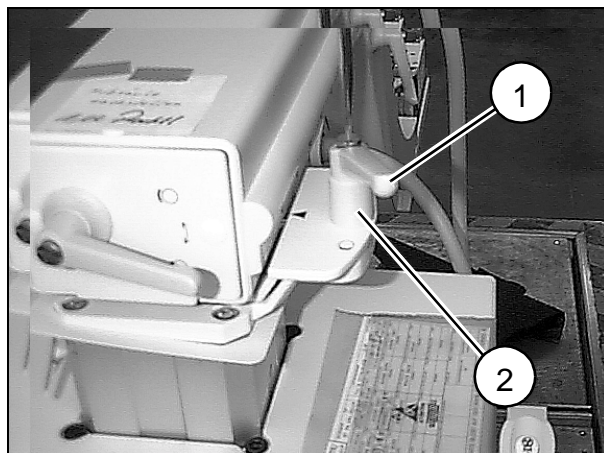


Fig. 9

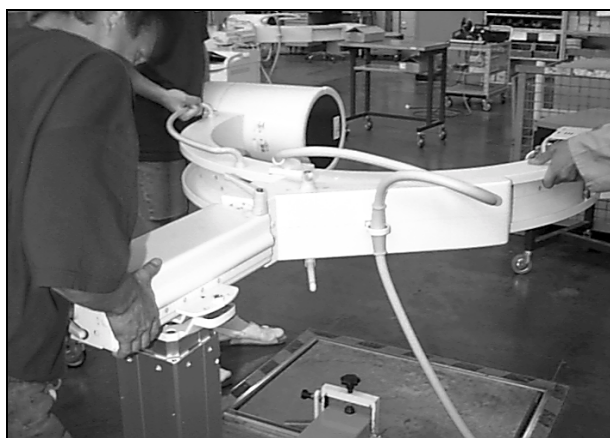


Fig. 10

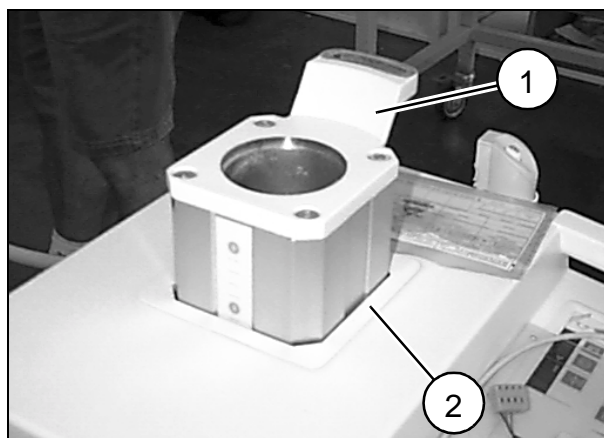


Fig. 11

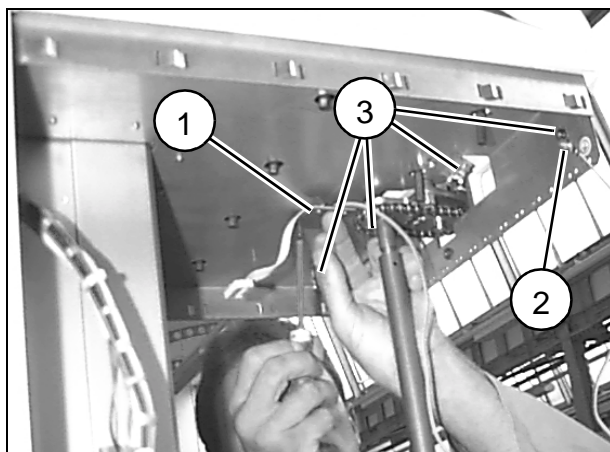


Fig. 12

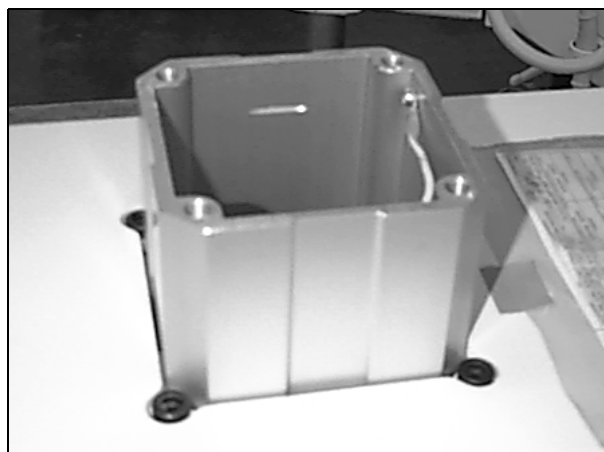


Fig. 13

Removing the hand railing

- Remove the left hand railing from the C-arm.

Removing the swivel brake

- Remove the handle (1/Fig.9) and remove the plastic protector (2/Fig.9).
- Remove the latch assembly by removing the screws.
- Remove the cover plate under the swivel brake by removing the screws.
- Knock the spring pin out and remove the bolt.
- Move the C-arm into the horizontal position and secure it so that it cannot swivel.

Removing the C-arm

- Lift the C-arm from its bearing support (three people required) and place it on a table being careful not to damage the C-arm cable (Fig.10).
- Remove the screws from the bearing shell of the C-arm bearing support.(1/Fig.11)
- Move the lifting column all the way down by briefly applying 230 V_{AC} at the 3-pole connection plug of the lifting column (N at X7 A/1, P at X7 A/3).

Removing the upper cover with the control panel

- Remove the screws from the strain relief of the control panel cable (1/Fig.12).
- Remove the protective conductor by removing the screws (2/Fig.12).
- Remove the cover facing by removing the screws.
- Remove the mounting screws (3/Fig.12).
- Place the control lever at 90 degrees to the control panel.
- Remove the cover ring around the control lever.
- Loosen the cover (2/Fig.11) at the lifting column and remove it.
- Remove the 4 mounting screws (Fig.13) on the lifting column.
- Remove the upper cover with the control panel; to do this, lift the cover over the lifting column and carefully pull it off over the control lever at the same time pulling the connector of the control panel cable carefully through the rectangular opening (1/Fig.14).

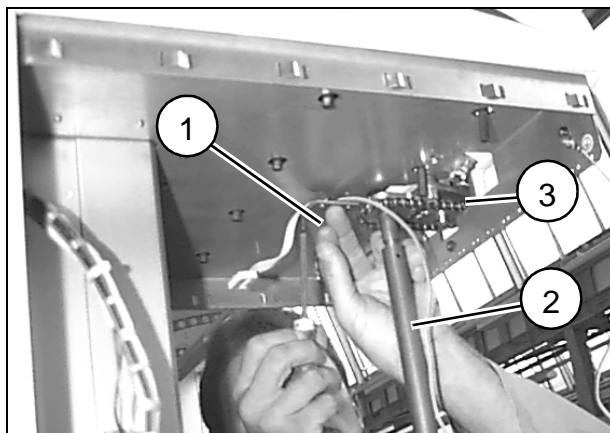


Fig. 14

Removing the control lever with the gears

- Turn the control lever parallel to the unit.
- Knock the spring pin out of the steering linkage (2/Fig.14).
- Mark the position of the control lever with a felt pen.
- Disconnect the control lever unit and remove it (3/Fig.14).

Removing the lifting column

- Remove the four mounting screws of the lifting column from the underside of the unit; tilt the unit a little, if necessary.
- Remove the lifting column (two people required).
Be careful not to damage the connection cable.



Fig. 1

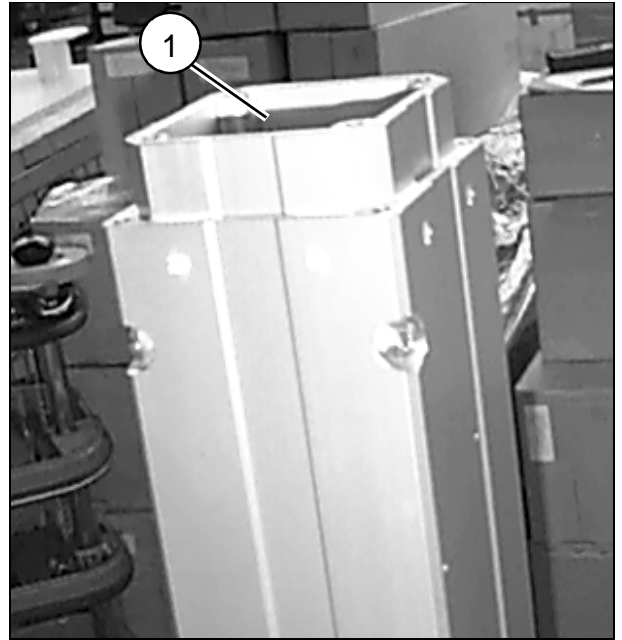


Fig. 2

Preliminary steps

- Recut the(1/Fig.1) threads.
- Eject all the wires from the four-pole connector on the connection cable and connect them to the three-pole connector as follows:

X7A/1

X7A/2

X7A/3

- Remove the black plastic cover from the lifting column (1/Fig.2).

Installing the new lifting column

- Move the new lifting column (two people required) through the opening in the chassis. Be careful not to damage the connection cable and ensure that the EMC gasket is seated correctly in the mounting.
- Place the lifting column into the guide (1/Fig.1) on the chassis and secure it with the screws from underneath the unit (screw torque = 40 Nm).

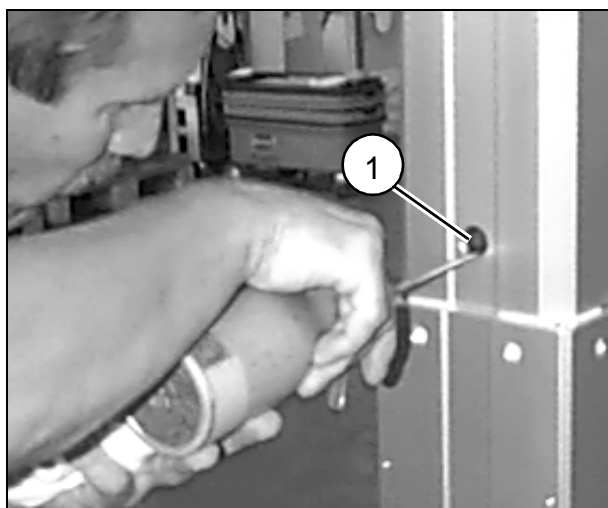


Fig. 3



Fig. 4

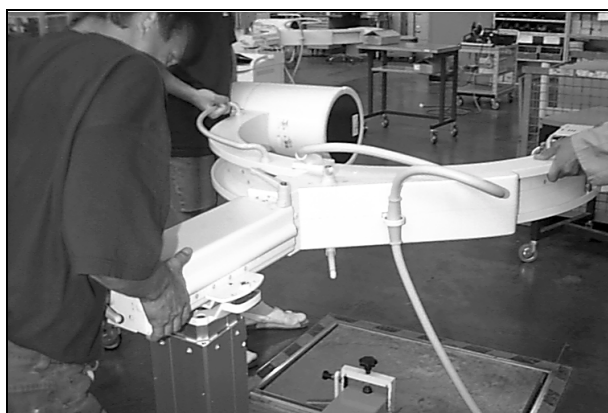


Fig. 5

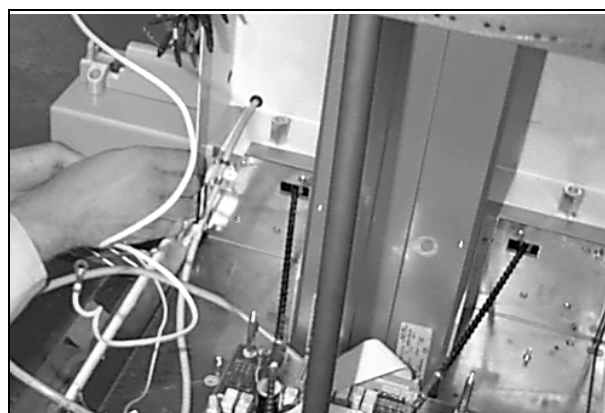


Fig. 6



Fig. 7

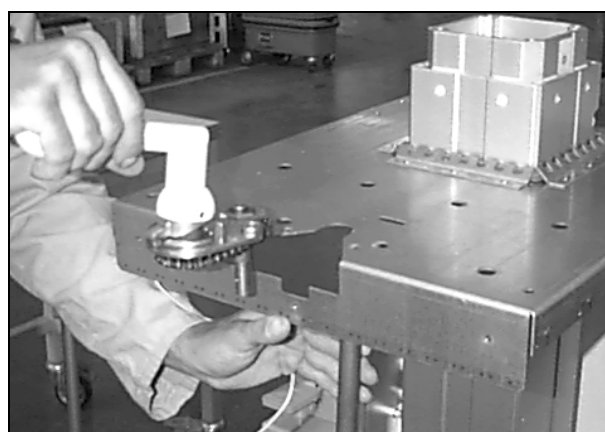


Fig. 8

- Apply 230V (N an X7 A/1 and phase at X7 A/2) and move the lifting column as far up as possible until the drilled hole for lubrication is accessible (1/Fig.3).
- Remove the plastic cap in the drilled hole (1/Fig.3) and lubricate the lifting spindle through the opening. Refill enough oil so that you can test the oil level with your finger. Use Viscogen KL 300, item number 73 95 353.
- Seal the hole with the plastic cap.
- Install the C-arm mounting in the lifting column (1/Fig.4).
- Place the C-arm in the new lifting column (3 people required) for testing purposes (Fig.5) and secure it against twisting.
- Connect plug X7A (connection cable of the lifting column):
Neutral at X7 A/1 Phase at X7 A/2 for lifting Phase at X7 A/3 for lowering
- Move the lifting column up and down several times and listen for noise.
- Move the lifting column all the way down again.
- Lift the C-arm back out of the mounting (3 people required) (Fig.5) and place it on a table.
- Remove the C-arm mounting again from the lifting column (1/Fig.4) by removing the screws.

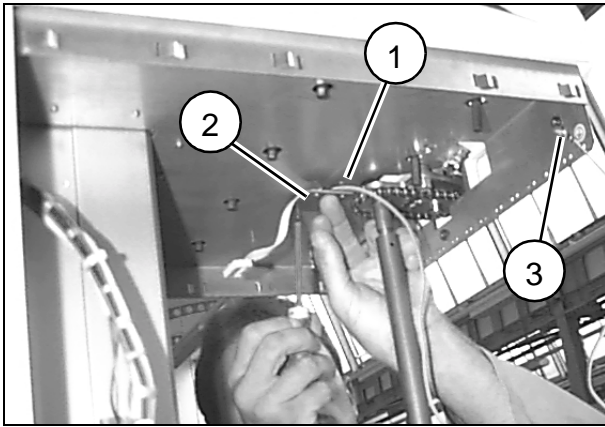


Fig. 9



Fig. 10



Fig. 11



Fig. 12

Installing the cover with the control panel

- Place the cover over the lifting column.
- Route the ribbon cable and the protective conductor for the control panel through the opening (1/Fig.9).
- Put the cover on.
- Secure the cover to the lifting column (10) with 4 screws and from below the control lever side with 4 screws as well.
Two long screws are provided on the inside.
- Reinsert the pin in the control lever.
- Reinstall the strain relief (2/Fig.9) of the control panel cable.
- Reattach (3/Fig.9) the protective conductor to the chassis (on the control side from below left).
- Reinstall the cover plate (on the control panel side at the chassis, under the control lever)

Installing the C-arm and the swivel brake

- Place the new collar over the lifting column, center it and attach it securely.
- Place the C-arm back into the mounting (3 people required).
- Reinstall the swivel brake:
 - Insert the bolt from below through the latches.
 - Reinstall the spring pin with its opening facing you.
- Install the spring washers:
the lower spring with the cone upward; the upper spring with the cone downward.
- Secure the latch assembly with the screws.
- Position the brake lever.
- Secure the cover plate with the screws under the swivel brake.
- **Reattach the hand railing to the C-arm with the screws.**



Fig. 13

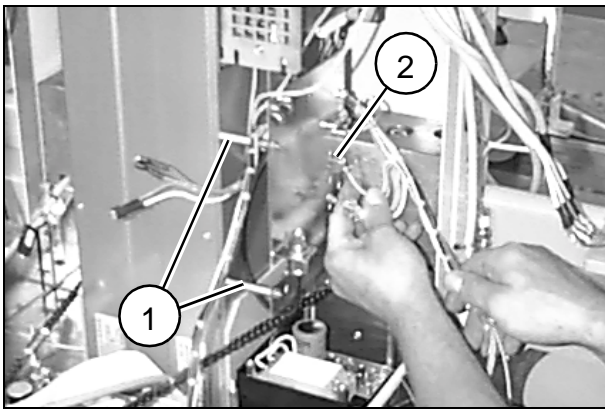


Fig. 14

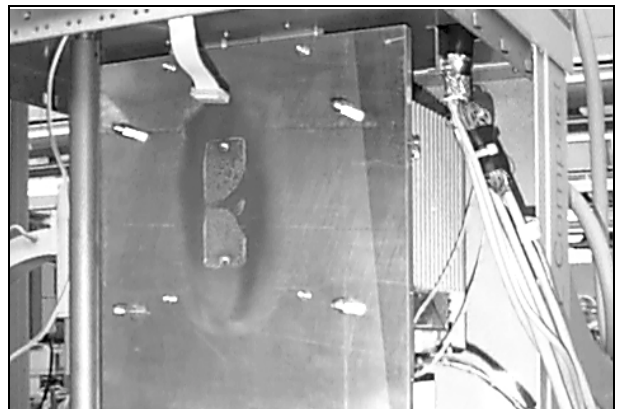


Fig. 15

Installing the line filter

- Insert the 4 standoffs (1/Fig.13) with the short threads into the holes in the lifting column and tighten them.
- Insert the base plate and tighten it with 4 M4 nuts and contact washers.
- Pull the cable back behind the lifting column toward the right.
- Secure all protective conductors (2/Fig.14) again on the base plate of the line filter; when doing this, insert contact washers between the cable terminal and the base plate.
- Secure the line filter with two screws to the base plate.
- Secure the BNC plug to the base plate with the screws.
- Connect the BNC cable.

Installing the power pack M 14

- Install the base plate.
- Install the power pack with the plug connections facing down.

- Plug in the connectors.
- Attach the protective conductor to the base plate of the line filter with the screw; insert a contact washer under the cable terminal.

Installing the TV power supply M13

- Insert the TV power supply into the holes in the floor of the unit ; however, don't tighten it yet.
- Pull the cables under the TV power supply and plug in the connections to the board:

Black wire to –

Red wire to +

- Solder the wires to the transformer:

Green/yellow = protective
conductor

red wire to 0 V

yellow wire to 220 V

- Lift out the TV power supply once again and install the Plexiglas cover.
- Reinstall the TV power supply and secure it from underneath the unit with 4-M4 nuts and washers.
- Secure the protective conductor with the screw to the floor of the unit and to the chassis. Insert contact washers under the cable terminals.

Installing boards D1 and D2

- Secure the heatsink on the control side of the lifting column (Fig.15).
- Attach the 6 spacer screws to the heatsink and tighten them (Fig.15).
- Apply conductive paste to the contact surface of the heatsink.
- Position board D2 on the spacer screws and tighten it to the heatsink (Fig.15).
- Connect the plugs on board D2.
- Secure board D2 with the spacers Fig.15.
- Install the interface plate.
- Position the spacers on the 6 screws.

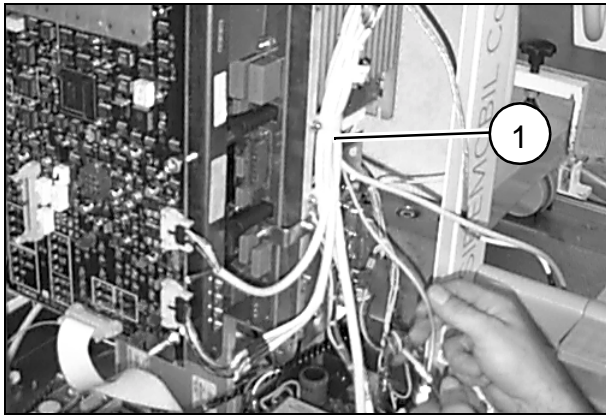


Fig. 16

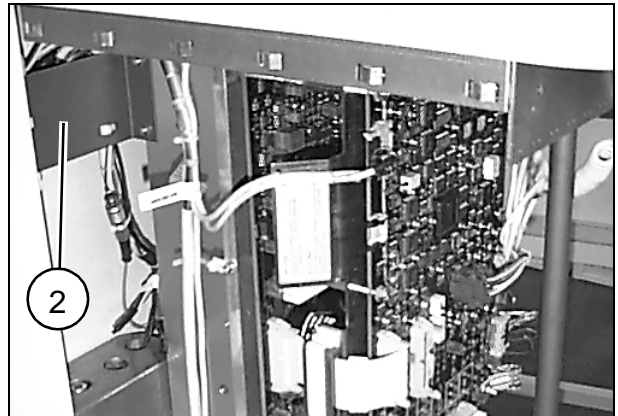


Fig. 17

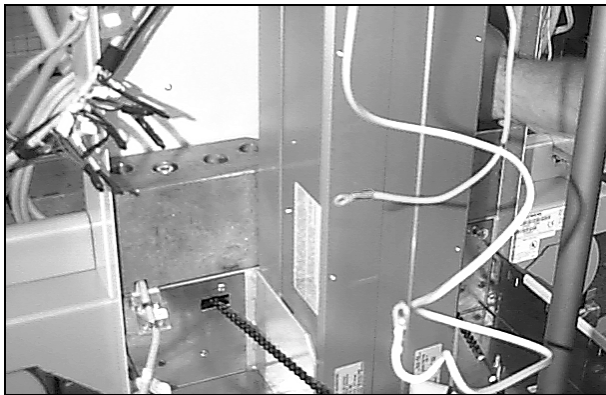


Fig. 18

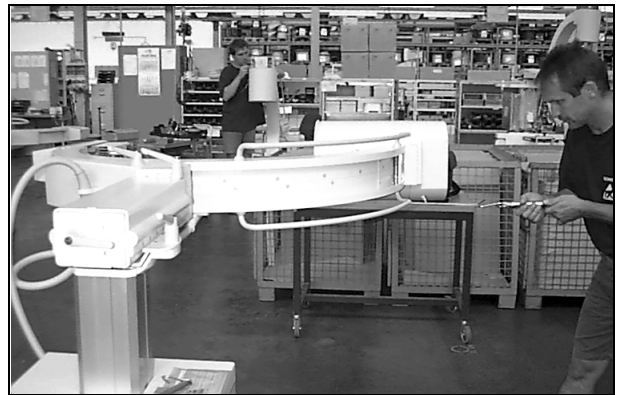


Fig. 19

- Carefully place board D1 on the 6 screws and secure it with washers and nuts (Fig.16).
- Connect the plugs to the corresponding connections on board D1.
- Secure the grounding strap to board D1, to the interface plate, to the heatsink and to the base plate of the line filter.
When tightening the screws on board D1, be careful that the grounding strap does not come in contact with adjacent components.
- Secure all shielding of the previously connected cables to ground with cable clamps.
- Secure the C-arm cable (1/Fig.16) and plug in the connectors.
- Pull the Diamantor measurement cable through toward the left behind the lifting column.
- Reattach the bracket (2/Fig.17) to the lifting column and tighten the screws.
- Connect the footswitch cable to board D3 and secure it with the strain relief (Fig.18).

Adjusting the swivel brake

Set point: Brake released $\leq 10 \text{ Nm}$ Brake applied $\geq 100 \text{ Nm}$

- Move the C-arm into the horizontal position (Fig.19).
- Measure the braking force with a (20N) spring scale for the released brake and a (200N) spring scale for the applied brake from the handle grip end to the image intensifier. (Fig.19);
When doing this, suspend the spring scale with a cloth band or other similar device from the handle. Set the brake to the above values by adjusting the grip latch on the brake lever .
- Place the brake lever in the end positions (brake applied or released) respectively, parallel to the horizontal arm.
- Set the brake.
- Remove the brake lever.
- Glue the plastic guard in the center with a little silicon adhesive.
- Install the brake lever in the same position as previously and secure it with the screws.

Remaining work

- Attach the new ring cover with adhesive to the control lever at the center.
- Switch the system on and check all functions.
- Move the lifting column all the way up and attach the scale label supplied vertically in the middle of the inner section.
- Install all the covers.
When doing this, attach the protective conductors to the covers.

Perform the protective conductor test.

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- Adjust the slipstick brake (2/Fig.2).
To do this, loosen the locknut at the top on the outer section of the lifting column and tighten the screws so that there is no play.
- Retighten the lock nuts so that the screws do not shift.

TD PS 24 / Rottner
TD SD 24 / Groß
SMS, Iselin / O'Donnell

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